Make sure you have the tutorial open when answering the following questions. All of the questions in this module use the Python Tutorial at:

* <http://www.letslearnpython.com/learn/>

Note: You should use the black area of Repl to try the simple Python expressions listed in the questions below.

**Lesson 4: Strings – Strings and Lesson 4: Strings – Examples**

1. What is a string? Explain in words and provide an example.

**A String consists of letters / characters**

1. Explain why typing “apple” works and why typing apple without quotes gives an error.

**Because the quotes define the fact that its not a command and a instead a string.**

1. Is there a difference between typing “apple” and ‘apple’. (i.e. is there a difference between using single or double quotes.

**No, as long as you don’t mix them you can use either or.**

1. Explain why typing “apple’ gives an error.

**Because you are using 2 different types of quotes**

1. Explain why “2 + 5” does not equal 7 and how it is different from typing 2 + 5.

**Because using quotes registers it as a string while leaving the quotes out register as an integer. For example “2” + “2” would print “22”**

**Lesson 4: Strings – Operators**

1. Type “appl” + “e” and explain what it does. Why do you think this works?

**Because they’re strings it just adds the “e” at the end**

1. Type “apple” - “e” and explain what it does. Why do you think this gives an error?

**Because we aren’t working with integers. You can’t subtract**

1. Type “Hello” \* 10 and explain what it does. Why do you think this works?

**Prints Hello ten times**

1. Type “Hello” / 10 and explain what it does. Why do you think this gives an error?

**You can’t divide a string**

1. The ***concatenation*** operator (+) is very useful for working with strings. Explain ***concatenation*** with words and examples.

**For example, “2” + “2” would print “22”, it simply adds on to a string.**

**Lesson 4: Strings – Indexes and Lesson 4: Strings – Indexes Examples**

1. Create a string using the letters in your first name and write down the ***index*** number for each letter.

**“DEVAN”**

**0 1 2 3 4 //**

1. Explain why print(“Hello!”[4]) does not print “l”.

**Cause its not the 4th index**

1. What does print(“Hay, Bob!”[4]) print? For a hint try print(“Hay, Bob!”[3]) and print(“Hay, Bob!”[5])

**It prints the letter o**

1. Answer True or False: “String indexes in Python begin at 0”. Do you need to know the reason for this or do you just need to remember this?

**TRUE**

**Lesson 5: Variables**

1. Complete “Lesson 5: Variables – Save a Value” by typing the sample commands in the black area of the IDE.
   1. What do you get if you type puppies / 3?

**12**

* 1. Why doesn’t typing kittens / 3 work?  
     **There is not kittens variable, meaning it had no value.**

1. Complete “Lesson 5: Variables – Math Operators” by typing the sample commands in the black area of the IDE.
   1. Explain what happens for following sequence of commands:
      * colour = “red”
      * puppies = 36
      * colour + puppies

**YOU get an error**

1. Complete “Lesson 5: Variables – String Operators” by typing the sample commands in the black area of the IDE.
   1. Explain why the following commands give different results:
      * Color + day \* fishes
      * ( Color + day ) \* fishes  
        **Cause bedmas makes it do the equation in brackets before the multiplication**
2. Complete “Lesson 5: Variables – Indexes” by typing the sample commands in the black area of the IDE.
   1. What is the index of ‘r’ in “watermelon”?

**[4]**

* 1. Write an expression using mynumber to return ‘r’  
     **mynumber = “watermelon”**

**print(mynumber[4])**

1. Integers (numbers) and Strings (letters) are different data types in Python?
   1. What doesn’t “friend” + 5 work?

**Cause they are different data types**

* 1. What is the difference between the ***int*** and ***str*** data types?

**Int or integer is used to express a whole number not containing decimals or special characters. A str or string is used to express words/special characters.**